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# HTML5 BASICS (2)

Introduction to Internet Programming  
ITGS 226 -- F 2021

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## HTML LINKS

- A **link** or **hyperlink** is a connection from one web resource to another.
- A link has two ends, called **anchors**. The link starts at the source anchor and points to the destination anchor, which may be any web resource, for example, an image, an audio or video clip, a PDF file, an HTML document or an element within the document itself, and so on.
- Links are specified in HTML using the `<a>` tag.
- A link or hyperlink could be a word, group of words, or image.

```
<a href="url">.....</a>
```

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## HTML LINKS (cont'd)

- By default, links will appear as follow :
  - An [unvisited link](#) is underlined and blue.
  - A [visited link](#) is underlined and purple
  - An [active link](#) is underlined and red.
- Anything between the opening `<a>` tag and the closing `</a>` tag becomes the part of the link that the user sees and clicks in a browser.

```
<a href="https://www.google.com/">Google Search</a>
```

- To use an text as a link, put this text as a content for the a element. But to use an image as a link, just put the `<img>` tag inside the `<a>` tag instead.

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## HTML LINKS (cont'd)

- The **href** attribute specifies the target of the link. Its value can be an absolute or relative URL:
  - An absolute URL: is the URL that includes every part of the URL format, such as protocol, host name, and path of the document, e.g., `https://www.google.com/`, `https://www.example.com/form.ph`, etc.
  - A relative URLs: are page-relative paths, that never includes the `http://` or `https://` prefix, e.g., `contact.html`, `images/smiley.png`, and so on.
- If no page is specified in href, the site will display the homepage.

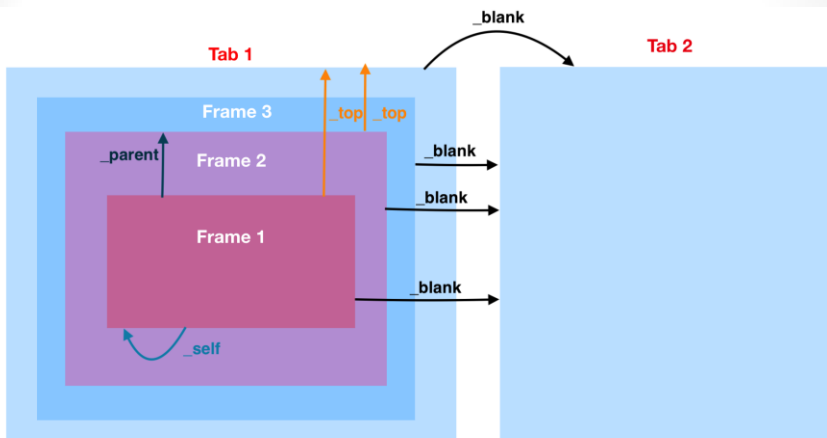
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## HTML LINKS (cont'd)

- The **target** attribute tells the browser where to open the linked document. There are four defined targets, and each target name starts with an underscore(\_) character:
  - **\_blank** : Opens the linked document in a new window or tab.
  - **\_parent** : Opens the linked document in the parent window.
  - **\_self**: Opens the linked document in the same window or tab as the source document. This is the default, hence it is not necessary to explicitly specify this value.
  - **\_top**: Opens the linked document in the full browser window.

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## HTML LINKS (cont'd)



The only currently relevant value of target is **\_blank**. The other values of target were used to specify specific frames. However, frames have been **deprecated** in HTML5.

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## HTML LINKS (cont'd)

- **Creating Bookmark Anchors:** create bookmark anchors to allow users to jump to a specific section of a web page. Bookmarks are especially helpful if you have a very long web page. It is a two-step process:

- 1) Add the id attribute on the element where you want to jump.

```
<h2 id= "topicA"> Topic A ..... </h2>
```

- 2) Use the id attribute value from step (1) preceded by the hash sign (#) as the value of the href attribute of the <a> tag.

```
<a href="#topicA">Go to TopicA</a>
```

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## HTML LINKS (cont'd)

- **Creating Download Links:** create the file download link in exactly the same fashion as placing text links. Just point the destination URL to the file you want to be available for download.

```
<a href="downloads/test.zip">Download Zip file</a>
```

- By click on the link that points to a PDF or image file, the file is not downloaded to the hard drive directly. It will only open the file in the web browser. Then it can be saved or downloaded.

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## HTML LINKS (cont'd)

- **Link to an Email Address:** Use (mailto:) inside the href attribute to create a link that opens the user's email program (to let them send a new email)

```
<a href="mailto:someone@example.com">  
    Send email  
</a>
```

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## HTML IMAGES

- Images enhance visual appearance of the web pages by making them more interesting and colorful.
- The **<img>** tag is used to insert images in the HTML documents.
- It is an empty element and contains attributes only.

```

```

- Each image must carry at least two attributes src and alt:
  - The **src** attribute: it tells the browser where to find the image. Its value is the URL of the image file.
  - The **alt** attribute: it provides an alternative text for the image, if it is unavailable or cannot be displayed for some reason.

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## HTML IMAGES (cont'd)

- The **title** attribute provides additional information about the image. Most browsers will display the content of this attribute in a tooltip when the user hovers over the image.
- The **width** and **height** attributes are used to specify the width and height of an image. The values of these attributes are interpreted in pixels by default.

```

```

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## HTML IMAGES (cont'd)

- Where to place the image in the code:
  - **Block elements:** If the `<img>` is followed by a block level element (such as a paragraph) then the block level element will sit on a new line after the images.
  - **Inline elements** If the `<img>` element is inside a block level element, any text or other inline elements will flow around the image.

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## HTML IMAGES (cont'd) **Figure**

- HTML5 has introduced a new **<figure>** element to contain images and their caption so that the two are associated.
- There can be more than one image inside the **<figure>** element as long as they all share the same caption.
- The **<figcaption>** element has been added to HTML5 in order to allow web page authors to add a caption to an image.
- Before these elements were created there was no way to associate an **<img>** element with its caption.
- **<figure>** is a block element.

```
<figure>
  <br>
  <figcaption>.....</figcaption>
</figure>
```

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## HTML IMAGES (cont'd) **Image Maps**

- An image map allows to define hotspots on an image that acts just like a hyperlink.
- The basic idea behind creating image map is to provide an easy way of linking various parts of an image without dividing it into separate image files.
- The name attribute of the **<map>** tag is used to reference the map from the **<img>** tag using its **usemap** attribute.
- The **<area>** tag is used inside the **<map>** element to define the clickable areas on an image. You can define any number of clickable areas within an image.
- The image map should not be used for website navigation. They are not search engine friendly.
- A valid use of an image map is with a geographical map.

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## HTML IMAGES (cont'd) Image Maps

```

<map name="workmap">
  <area shape="rect" <!--rect or circle or poly or default-->
    coords="34,44,270,350"
    alt="Computer"
    href="computer.htm">
  ... ..
</map>
```

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## HTML IMAGES (cont'd) Picture

- HTML5 has introduced the <picture> tag that allows to define multiple versions of an image to target different types of devices.
- The <picture> element contains zero or more <source> elements, each referring to different image source, and one <img> element at the end.
- Also each <source> element has the media attribute which specifies a media condition (similar to the media query) that is used by the browser to determine when a particular source should be used.
- The browser will evaluate each child <source> element and choose the best match among them; if no matches are found, the URL of the <img> element's src attribute is used

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## HTML IMAGES (cont'd) **Picture**

- Always specify an `<img>` element as the last child element of the `<picture>` element to be used by browsers that do not support the `<picture>` element, or if none of the `<source>` tags match.
- The browser will use the first `<source>` element with matching attribute values, and ignore any following `<source>` elements.

```
<picture>
  <source media="(min-width: 650px)" srcset="img_food.jpg">
  <source media="(min-width: 465px)" srcset="img_car.jpg">
  
</picture>
```

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## HTML TEXT FORMATTING

- Formatting elements using:
  - `<strong>` - Important text & `<b>` - Bold text
  - `<em>` - Emphasized text & `<i>` - Italic text
  - `<mark>` - Marked text
  - `<small>` - Smaller text
  - `<del>` - Deleted text
  - `<ins>` - Inserted text
  - `<sub>` - Subscript text
  - `<sup>` - Superscript text

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## HTML TEXT FORMATTING (cont'd)

- **<strong> and <b> tags:**

- Both `<strong>` and `<b>` tags render the enclosed text in a bold typeface by default.
- The `<strong>` tag indicates that its contents have strong importance

```
<p>
    <strong>WARNING!</strong>
    Please proceed with caution.
</p>
```

- The `<b>` tag is simply used to draw the reader's attention without conveying any special importance.

```
<p>
    The concert will be held at
    <b>Hyde Park</b> in London.
</p>
```

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## HTML TEXT FORMATTING (cont'd)

- **<em> and <i> tags:**

- Both `<em>` and `<i>` tags render the enclosed text in italic type by default.
- The `<em>` tag indicates that its contents have stressed emphasis compared to surrounding text.

```
<p>
    Cats are <em>cute</em> animals.
</p>
```

- The `<i>` tag is used for marking up text that is set off from the normal text for readability reasons, such as a technical term, an idiomatic phrase from another language, a thought, etc.

```
<p>
    The <i>Royal Cruise</i> sailed last night.
</p>
```

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## HTML TEXT FORMATTING (cont'd)

- The **<mark>** element defines text that should be marked or highlighted.
- The **<small>** element identifies text to display one size smaller than the surrounding text.
- The **<del>** element can show text that has been deleted from it. The content of it usually has a line through it.
- The **<ins>** element can be used to show content that has been inserted into a document. The content of it is usually underlined.
- The **<sub>** element defines subscript text which appears half a character below the normal line, and is sometimes rendered in a smaller font. It can be used for chemical formulas, like  $H_2O$
- The **<sup>** element defines superscript text which appears half a character above the normal line, and is sometimes rendered in a smaller font. It can be used for footnotes, like WWW<sup>[1]</sup>

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## HTML QUOTATION

- The **<blockquote>** element defines a section that is quoted from another source. Blockquotes are generally displayed with indented left and right margins, along with a little extra space added above and below (block element).
- The **<q>** tag defines a short quotation that sit within a paragraph. Browsers normally insert quotation marks around the quotation (inline element).

Both elements **<blockquote>** and **<q>** may use the **cite** attribute to indicate where the quote is from. Its value should be a URL that will have more information about the source of the quotation.

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## HTML CITATION

- The **<abbr>** tag defines an abbreviation or an acronym, like "HTML" and "CSS" to give useful information to browsers, translation systems and search-engines. The **title** attribute is used inside this tag to provide the full expansion of the abbreviation, which is displayed by the browsers as a tooltip when the mouse cursor is hovered over the element.
- The **<address>** tag defines the contact information for the author/owner of a document or an article such as an email address, URL, physical address, phone number, etc. its content usually renders in italic, with a line break before and after.
- The **<cite>** element can be used to indicate where the citation is from when referencing a piece of work such as a book, film or research paper. Browsers will render the content of it in italics.

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THE END

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